

09/894,392

MS171134.01/MSFTP214US

REMARKS

Claims 1-8 and 10-45 are currently pending and are presently under consideration. The specification has been amended. Claims 1-2, 5, 7, 11, 13, 15-16, 18, 20-25, 28-29, 32-35, 37, 39 and 41-45 have been amended. Claims 3-4, 9, 12, and 14 have been cancelled. Favorable reconsideration of the subject patent application is respectfully requested in view of the amendments and comments herein.

I. Rejection of Claims 1-3 and 11-13 Under 35 U.S.C. §102(b)

Claims 1-3 and 11-13 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,193,171 to Shinmura, *et al.* Reversal of this rejection is respectfully requested for at least the following reasons. Shinmura *et al.* does not disclose each and every limitation of the claims.

A single prior art reference anticipates a patent claim if *each* and *every* limitation set forth in the patent claim is disclosed in the reference, either expressly or inherently. (*See Trintec Industries, Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295, 63 U.S.P.Q.2d 1597, 1599, 2 U.S.P.Q.2d 1051, 1052-53 (Fed. Cir. 2002) (citing to *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987))) (emphasis added). Moreover, "[t]he *identical* invention must be shown in as *complete* detail as is contained in the patent claim." (*Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 U.S.P.Q.2d 1913, 1920 (Fed. Cir. 1989) (emphasis added) (citing *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 756 F.2d 1556, 1560, 225 U.S.P.Q. 253, 257 (Fed. Cir. 1985); and *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 U.S.P.Q. 193, 198 (Fed. Cir. 1983))).

Shinmura *et al.* discloses a system for managing space on storage devices. (*See Shinmura et al.* at Abstract). The system of Shinmura *et al.* migrates files from an active store to another store based on how much space is available on the storage devices, the size of the file, and how long ago a file was last accessed. (*See e.g.*, Shinmura *et al.* at col. 2, line 15 through col. 6, line 64). The system taught by Shinmura *et al.* uses *static, deterministic* rules (*i.e.*, IF-THEN rules) to determine whether to migrate a file to another storage device and does not *calculate* the probability a user will access the file in the future.

09/894,392

MS171134.01/MSFTP214US

Claims 1 and 11 in some form recite the limitations determining a benefit associated with storing an item in the active state at least in part by *calculating a probability* of user access (or user preference) and that the item is stored as active in part according to an assessment of the item's *relative* worth (or utility). Shinmura *et al.* does not disclose these novel features, and therefore, does not anticipate the subject claims. Accordingly, applicant's representative respectfully requests that this rejection be withdrawn.

II. Rejection of Claims 1-4 and 11-13 Under 35 U.S.C. §102(e)

Claims 1-4 and 11-13 stand rejected under U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,199,103 to Sakaguchi, *et al.* Reversal of this rejection is respectfully requested for at least the following reasons. Sakaguchi *et al.* does not disclose each and every limitation of the claims.

Sakaguchi *et al.* discloses a conventional junk email filter that uses keyword vectoring to distinguish between "junk" and "non-junk" emails. (See Sakaguchi *et al.* at Abstract). The junk email filter determines whether the contents of an email are similar enough to a representative junk email to be classified as junk and placed in a junk mail folder or deleted. (See *e.g.*, Sakaguchi *et al.* at col. 6, lines 8-12 and col. 36-38). As explained *supra*, claims 1 and 11 in some form recite the limitations determining a benefit associated with storing an item in the active state at least in part by *calculating a probability* of user access (or user preference) and that the item is stored as active in part according to an assessment of the item's *relative* worth (or utility). Sakaguchi *et al.* does not disclose these novel features, and therefore, does not anticipate the subject claims. Accordingly, applicant's representative respectfully requests that this rejection be withdrawn.

III. Rejection of Claims 4-6, 14-21, 23-28, 30-37 and 39-45 Under 35 U.S.C. §103(a)

Claims 4-6, 14-21, 23-28, 30-37 and 39-45 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Shinmura *et al.* in view of the article entitled "Continual Computation Policies for Utility-Directed Prefetching" by Horvitz ("Horvitz"). Reversal of this rejection is respectfully requested for at least the following reasons. The Examiner has improperly combined the cited references using hindsight reconstruction, without evidence to support the combination and in the face of contrary teachings in the prior art. There is no teaching,

09/894,392

MS171134.01/MSFTP214US

suggestion, or motivation to combine Shinmura *et al.* with Horvitz and the Examiner has not provided any *evidence in the prior art or other reference of record* to show otherwise. Indeed, the Examiner has merely used the teachings of the applicant's specification as a 20/20 hindsight-based roadmap to achieve the purported combination. Moreover, Shinmura *et al.* *teaches away* from using the methodology of Horvitz in the Shinmura *et al.* systems. Thus, the PTO has failed to establish a *prima facie* case of obviousness and has failed to show that the subject matter as a *whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art.

The test of obviousness is whether "the subject matter sought to be patented and the prior art are such that the subject matter as a *whole* would have been obvious at the time the invention was made to a person having ordinary skill in the art." (*Graham v. John Deere Co.*, 383 U.S. 1, 3 (1966) (emphasis added); *see also e.g., In re Dembiczak*, 175 F.3d 994, 998, 50 U.S.P.Q. 1614, 1616 (Fed. Cir. 1999)). In evaluating obviousness, the PTO must conduct the factual inquiry as outlined in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). (*See In re Lee*, 277 F.3d 1338, 1342-43, 61 U.S.P.Q.2d 1430, 1433 (Fed. Cir. 2002)). The factual inquiry to be conducted includes determining: (1) the scope and content of the prior art; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. (*See Graham*, 383 U.S. 1, 17-18 (1966)). The PTO must "not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." (*In re Lee*, 277 F.3d at 1344, 61 U.S.P.Q.2d at 1434). The PTO cannot rely merely on conclusory statements and assertions of "common sense" to remedy deficiencies of the cited references. (*In re Lee*, 277 F.3d at 1344, 61 U.S.P.Q.2d at 1434). If the PTO relies on multiple prior art references as the basis for an obviousness rejection, it is not enough that all of the claim limitations appear in the prior art. To establish a *prima facie* case of obviousness, the PTO must also make an adequate showing of a suggestion, teaching, or motivation to combine the prior art references. (*See In re Dembiczak*, 175 F.3d 994, 999-1001, 50 U.S.P.Q. 1614, 1617 (Fed. Cir. 1999) (citing to *C.R. Bard, Inc., v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998)); *see also In re Lee*, 277 F.3d at 1343, 61 U.S.P.Q.2d at 1433). Only if the PTO establishes a *prima facie* case of obviousness does the burden of coming forward with evidence or argument shift to the applicant.

09/894,392

MS171134.01/MSFTP214US

(See *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1445 (Fed. Cir. 1992)).

Horvitz discloses prefetching techniques for minimizing network latencies inherent with low-bandwidth communication links to the Internet. (See Horvitz at p. 175). The system of Horvitz prefetch Internet content during idle-time based on a user's behavior and the link structure of the document to be prefetched. (See Horvitz at p. 179). Horvitz does not teach or suggest inferring whether to keep active, archive or discard files. As discussed *supra*, Shinmura *et al.* merely teaches systems and methods that employ conventional IF-THEN deterministic decision-making. Shinmura *et al.* is silent regarding computations to ascertain a probability of user access or preference. In an attempt to remedy the defects of Shinmura *et al.*, the Examiner cites to Horvitz. However, neither of these references provide any teaching, suggestion, or motivation to combine the references, and, furthermore, Shinmura *et al.* teaches away from such a combination.

The Examiner contends that it would be obvious to combine the teachings of Horvitz with the teachings of Shinmura *et al.* because “[o]ne would have been motivated to do so in order to provide a more accurate, yet cost-effective means for determining probability of user access, instead of a simple choice of a non/least accessed item.” (Final Office Action dated Apr. 13, 2004 at p. 7 and Examiner's Answer to Appeal Brief dated Apr. 7, 2005 at pp. 6-7). This purported inefficiency of the Shinmura *et al.* system is not taught or suggested by either Shinmura *et al.* or Horvitz. Horvitz makes no mention at all that the methods of Horvitz could be used for any reason other than prefetching and certainly does not suggest that the methods could be used to improve email archiving. Shinmura *et al.* repeatedly teaches that its system is efficient and nothing in the reference even hints at any accuracy or cost problems. (See *e.g.*, Shinmura *et al.* at col. 3, lines 7-9; col. 7, lines 54-56; and col. 8, lines 15-18 and lines 41-50). By repeatedly proclaiming the system's efficiency, Shinmura *et al.* actually teaches away from substituting any other decision-making methodology into its system.

The Examiner also contends that the motivation to combine references is “Shinmura's silence on the detailed calculations used in decision step 47.” (Final Office Action at p. 8 and Examiner's Answer at p. 7). This purported motivation to combine references is nothing more than pointing out what it is that Shinmura *et al.* does not teach. To show a teaching, suggestion or motivation to combine references sufficient to establish a *prima facie* case of obviousness, an

09/894,392

MS171134.01/MSFTP214US

Examiner must do more than just point out what a prior art reference does not teach. To hold otherwise would nullify the requirement.

The Examiner further contends that "suggestion can be found in Horvitz' fulfillment of a need to more accurately gauge probability of user access to a document/file, as disclosed in Section 3 of the Horvitz reference, in light of the simplistic measure of probability disclosed in Shinmura." (Final Office Action at p. 15). However, Horvitz makes no mention that its techniques could be used for any other purpose and Shinmura *et al.* repeatedly teaches the benefits of its system and does not even hint at any deficiencies (thus *teaching away* from modifying the Shinmura *et al.* system).

In the Examiner's Answer to the Appeal Brief, the Examiner contends that one of ordinary skill in the art would be motivated to combine Shinmura *et al.* with Horvitz because prefetching a web page "directly mirrors archiving" and one of ordinary skill in the art would recognize "this mirror and the similarities between the processes of Shinmura and Horvitz" and "the advantages of Horvitz' probabilistic computations." (Examiner's Answer at p. 16). Applicant's representative respectfully disagrees. Horvitz discloses downloading data from a server before a user requests it (*i.e.*, prefetching), placing it in a local cache, and displaying it to the user should the user request it. (See Horvitz at p. 176). Nothing in Horvitz teaches or suggests making a decision regarding whether to store an item as active or to archive the item. The Examiner does not point to anything in the prior art that provides any evidence that one of ordinary skill in the art would recognize the advantages of Horvitz' probabilistic computations in the context of making a decision regarding whether to store an item as active or to archive the item.

The Examiner is basing the rejection on the assertion that it would have been obvious to do something not suggested in the art but, rather, suggested by the advantages disclosed in applicant's specification. This sort of approach has been repeatedly condemned by the Federal Circuit as entering the "tempting but forbidden zone of hindsight." (*In re Dembiczak*, 175 F.3d at 998, 50 U.S.P.Q. at 1616 (citing to *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 873, 228 U.S.P.Q. 90, 98 (Fed. Cir. 1985), overruled on other grounds by *Nobelpharma AB v. Implant Innovations, Inc.*, 141 F.3d 1059, 46 U.S.P.Q.2d 1097 (Fed. Cir. 1998))). By imbuing "one of ordinary skill in the art with knowledge of the invention in suit when *no prior art reference or references of record* convey or suggest knowledge," the Examiner has fallen "victim to the

09/894,392

MS171134.01/MSFTP214US

insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." (*In re Fine*, 837 F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (citing to *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983)) (emphasis added); *see also In re Dembiczak*, 175 F.3d at 998-99, 50 U.S.P.Q. at 1616-17). As the Federal Circuit has stated:

[m]easuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. . . . Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references. Combining prior art references *without evidence* of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight. . . . [T]he showing must be *clear and particular. Broad conclusory statements regarding the teaching of multiple references, standing alone, are not "evidence."*

(*In re Dembiczak*, 175 F.3d at 999, 50 U.S.P.Q. at 1617) (internal citations omitted) (emphasis added). Indeed, all the Examiner has done is provide the "[b]road conclusory statements" that the Federal Circuit has held are not *evidence* that can support an obviousness rejection. (*In re Dembiczak*, 175 F.3d at 999, 50 U.S.P.Q. at 1617).

For at least the reasons discussed *supra*, the Examiner has failed to make an adequate showing of a teaching, suggestion, or motivation to combine the references. Indeed, *Shinmura et al.* teaches away from any modifications of its system and the Examiner has not addressed this teaching away. Moreover, as itemized in the sections below, the subject claims as amended recite one or more limitations that neither *Shinmura et al.* nor Horvitz, alone or combination, teach or suggest. Thus, the cited prior art fails to render obvious the claimed subject matter as a whole, and the subject claims are in condition for allowance. Applicant's representative respectfully requests that this rejection be withdrawn.

A. Claims 4-6, 14-20 and 33-37

Claims 4-6, 14-21 and 33-37 in some form recite the limitation that a decision to store an

09/894,392

MS171134.01/MSFTP214US

item as active (or to remove an item from an active store) is based at least in part on the worth (or utility or value density) of the item *relative* to that of one or more other items *and the size of the active store*. Neither Shinmura *et al.* nor Horvitz, alone or combination, teach or suggest this novel feature of the subject claims.

B. Claims 21, 23 and 39-41

Claims 21, 23 and 39-41 in some form recite the limitation *ordering* items according to their value densities, storing as active those items according to their value densities, and archiving (or discarding) items according to their value densities and amount of space in the active store. Neither Shinmura *et al.* nor Horvitz, alone or combination, teach or suggest this novel feature of the subject claims.

C. Claims 24-28 and 30-32

Claims 24-28 and 30-32 recite the limitation an inference system to infer whether to store an item in an active fast memory or archive the item in a slower store based upon the value density of the item, space available in the fast memory, and *the value density of at least one other item*. Neither Shinmura *et al.* nor Horvitz, alone or combination, teach or suggest this novel feature of the subject claims.

D. Claim 42

Claim 42 recites the limitations an inference system to infer whether an item will be accessed *only once* and to discard or move one or more items likely to be accessed only once to a slower memory store *after the one or more items are accessed once*, the inference system comparing at least one of: the determined probability and value density to probabilities and value densities of items that have been accessed only once. Neither Shinmura *et al.* nor Horvitz, alone or combination, teach or suggest this novel feature of the subject claims.

E. Claims 43-44

Claims 43-44 recite the limitation removing an item from fast memory after the item has been accessed if at least one of the determined probability and value density of the item are similar to at least one of probabilities and value densities of *other items that have been accessed*

09/894,392

MS171134.01/MSFTP214US

only once. Neither Shinmura *et al.* nor Horvitz, alone or combination, teach or suggest this novel feature of the subject claims.

F. Claim 45

Claim 45 recites the limitation an entry element to permit a condition to be configured, wherein the condition relates to a *probabilistic analysis for determining whether to store the item in a fast memory or in an archival memory*, the probabilistic analysis based at least in part on the *item's worth relative to other items to be stored* and size of the fast memory, and wherein the item's worth is determined at least in part by *calculating a probability a user will access the item*. Neither Shinmura *et al.* nor Horvitz, alone or combination, teach or suggest this novel feature of the subject claims.

IV. Rejection of Claims 7, 8, 10, 22, 29 and 38 Under 35 U.S.C. §103(a)

Claims 7, 8, 10, 22, 29 and 38 stand rejected under U.S.C. §103(a) as being unpatentable over Shinmura *et al.* in view of Horvitz, and further in view of Sakaguchi *et al.* Reversal of this rejection is respectfully requested for at least the following reasons. First, as discussed *supra*, there is no teaching, suggestion, or motivation to combine Shinmura *et al.* with Horvitz and, furthermore, Shinmura *et al.* teaches away from using the methodology of Horvitz (or any other methodology) in its system. Sakaguchi *et al.* does not remedy this deficiency. Second, the Examiner contends that Sakaguchi *et al.* teaches determining if an item is a one-shot item. (See Final Office Action at pp. 11-12 and Examiner's Answer at pp. 9-10). Applicant's representative respectfully disagrees. Sakaguchi *et al.* teaches filtering junk emails. Junk emails are unwanted emails that a user prefers never to be exposed to and does not want to waste time accessing. One-shot items are items that a user would like to access, but only one time. Thus, junk emails (unwanted) and one-shot items (wanted but for only one access) are not the same. Third, by virtue of their dependency on allowable independent claims, the subject claims recite all of the limitations of their respective independent claims. As discussed *supra*, the independent claims are patentable over Shinmura *et al.* and Horvitz. Sakaguchi *et al.* fails to remedy the aforementioned deficiencies. Accordingly, withdrawal of the rejection and allowance of the subject claims is respectfully requested.

09/894,392

MS171134.01/MSFTP214US

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited. In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTPP214US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicant's undersigned representative at the telephone number listed below.

Respectfully submitted,

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